



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT : PARK, Keith et al.
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Grp./A.U. : 3725
Examiner :
Conf. No. : 5112
Docket No. : P06430US0

**CERTIFIED COPY OF PRIORITY DOCUMENT
UNDER 37 C.F.R. 1.55 and 35 U.S.C. § 119**

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

A claim for priority has been previously made in this case by way of the Application Data Sheet. The Application claims priority under the Paris Convention to the following Australia application:

AU 2002953315

Filed on December 13, 2002

CERTIFICATE OF MAILING/TRANSMISSION (37 CFR 1.8(a))

I hereby certify that this correspondence is, on the date shown below, being:

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EDMUND J. SEASE

A certified copy of that application is enclosed within. As suggested by MPEP 201.14(a), the serial number of the U.S. application has been noted, in pencil, on each page of the priority document.

No fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



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**Patent Office
Canberra**

I, JULIE BILLINGSLEY, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2002953315 for a patent by GMCA PTY LTD as filed on 13 December 2002.

WITNESS my hand this
Twenty-third day of September 2003

A handwritten signature in cursive script that reads "J. Billingsley".

JULIE BILLINGSLEY
TEAM LEADER EXAMINATION
SUPPORT AND SALES

AUSTRALIA

Patents Act 1990

PROVISIONAL SPECIFICATION

Invention Title: Planer

The invention is described in the following statement:

PLANER

Field of the Invention

The present invention relates to a planer. The invention is particularly directed to portable planers used in wood working that can be mains power or
5 battery operated.

Background of the Invention

Planers are used in wood working to plane or smooth an uneven surface, including the removal of paint layers. The planer includes a rotatably mounted blade assembly which is rotated at high speed above a work surface. As the
10 planer is moved across the work surface, raised parts of the uneven surface are shaved by the rotating blades, the bottom of the planer contacting the work surface and acting as a level and guide.

In order to obtain a smooth finished surface, it is typically necessary for the user of the planer to exert some downward pressure on the tool in order to steady
15 the tool and maintain the rotating blades in contact with the work surface. This can be particularly difficult if the surface being planed is somewhat uneven. Further, maintaining a constant pressure to the tool can be difficult, firstly due to the irregularities in the work surface, and secondly due to the position of the user relative to the tool.

20 Small wood chips and shavings are produced by the blade and are typically deflected towards the right or left side of the planer by the high speed rotation of the blade assembly. This can result in the work surface being obscured, the wood shavings being deflected towards the user, or often the rotating blade can become jammed by wood shavings accumulating within the blade housing.

25 It is an object of the invention to provide a planer which at least in part alleviates one or more of the above disadvantages.

Summary of the Invention

The invention accordingly provides a planer including:

a housing having a base planing surface for contacting a workpiece;

a rotatable blade assembly located within said housing and including one or
5 more cutting blades for engaging with and planing the work piece;

a motor associated with the blade assembly and operable to cause rotation
of the blade assembly;

wherein the motor is located within the planer housing directly above the
blade assembly such that the weight of the motor is directly above the cutting
10 blades.

Advantageously, the weight of the motor directly above the cutting blades
assists in planing the work piece, and provides improved balance to the planer.

The blade assembly is preferably rotatably mounted within a blade
chamber, the blade chamber being a void space surrounding the blade assembly
15 into which chips or shavings off the workpiece are drawn by the stream of air
created by the high speed rotation of the blade assembly.

Preferably, the housing of the planer further includes a chute for removal of
chips or shavings from the workpiece. Advantageously, the chute opens at one
end into the blade chamber, and the opposite end of the chute opens at the rear of
20 the planer. In use, chips or shavings from the workpiece are scooped forwardly
and upwardly and are drawn into the blade chamber and are caused, by the draft
associated with the high speed rotation of the blade assembly, to move directly
into the chute and out of the rear of the planer.

A further movable chute is preferably incorporated within the planer or
25 attached to the rear of the planer at the end of the fixed chute, and is used direct
the chips or shavings in a direction desired by the planer operator.

Preferably the planer is portable, and more preferably is a portable battery powered tool. Alternatively, the planer may be provided with a power cord and operated by mains power.

Brief Description of the Drawings

5 The invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Figure 1 is a schematic side view of a planer according to an embodiment of the present invention;

10 Figure 2 is an enlarged view of the blade assembly and motor, with the housing cover removed, of the planer shown in Figure 1.

Description of Preferred Embodiments

Figure 1 illustrates a planer 10 according to an embodiment of the invention. Planer 10 has a body 12, which includes main handle 14, front handle 16, base 18, and belt drive cover 20.

15 The planer 10 may be mains power operated and for this purpose a power cord 22 is provided at the rear 24 of the body 12. Some models of the planer 10 may be battery powered in which case the power cord 22 extension is not provided.

20 The base 18 of the planer 10 includes a rear shoe 26 and front shoe 28 which are broad and flat and serve to contact the work surface during use of the tool and maintain an even planing surface. Located above the front shoe 28 at the front of the tool 10, is an adjustment knob 30. Knob 30 is used to adjust the height of the cutting blade assembly 32 relative to a workpiece being planed. The operation of the cutting blade assembly 32 will be discussed in further detail
25 below.

A fence or edge guide 34 is removably mounted to the front of the planer 10 in a conventional manner. The fence or edge guide 34 is used for running along a straight edge of a work piece and assists in keeping the planer parallel to the edge of the work piece. The fence or edge guide 34 can be removed and the planer
5 used without in situations where planing near a straight edge is required.

Power to the planer 10 is provided in accordance with known safety guidelines in a two-step manner. A lock-off button 36 is provided on the side of the main handle 14. The lock off button 36 ensures that the planer 10 cannot be operated without an operator ie. the planer 10 cannot be left running while
10 unattended. An on/off trigger switch 38 is provided on the inner side of the main handle 14. An operator wishing to use the planer 10 must firstly depress the lock-off button 36 and pull the trigger switch 38 upwardly towards the handle 14.

As best illustrated in Figure 2, the belt drive cover 20 encloses, at its lower end, a conventional cutting blade assembly 32, comprising a rotatably mounted
15 barrel 42, upon which a pair of blades 43 are mounted on opposed sides of the barrel 42. The barrel 42 is rotated such that each blade is rotated in the direction opposite to the feed direction of the work piece, known as up-milling, and excess material from the work surface is removed. The direction of rotation of the barrel 42 is shown by the arrow marked "A" in Figure 1. The chips or shavings from the
20 workpiece are effectively scooped forwardly and upwardly by the action of the blades, together with the draft created by the high speed rotation of the blade assembly 32, into chamber 44 surrounding the blade assembly 32.

Chamber 44 surrounding the blade assembly 32 has a further opening 46 in the upper rear surface of the chamber 44, which connects the chamber 44 with an
25 exit chute 48. Exit chute 48 links the chamber 44 with an opening 50 at the rear of the planer 10. The opposite end of the exit chute 48 includes a movable chute or nozzle 54 which is adapted to fit to the rear of the planer 10. In preferred embodiments, the movable chute 54 is instead provided within the planer 10 itself.

Blade assembly 32 is driven at high speed by a belt drive (not shown)
30 linked to motor 60, which is operated by trigger switch 38. The motor 60 operates

in a conventional manner but instead of being located towards the rear of the tool it is located directly above the blade chamber 44. The weight of the motor being directly above the blade assembly provides additional downward force on the cutting blades thereby providing an improved cut and balance to the planer.

5 The blade assembly 32 is located towards the base of the planer 10, and is positioned so that the cutting blades 43 contact the workpiece intermediate the front shoe 28 and rear shoe 26. In use, as the blade assembly 32 is rotated at high speed a stream of air is created which draws chips or shavings from the workpiece into chamber 44 where they are swept directly into and along exit chute
10 48 towards the rear of the planer 10. The chips or shavings exit the tool via movable chute 54. Movable chute 54 can be shifted from left to right for example and can be positioned to deposit the chips or shavings away from the area being planed.

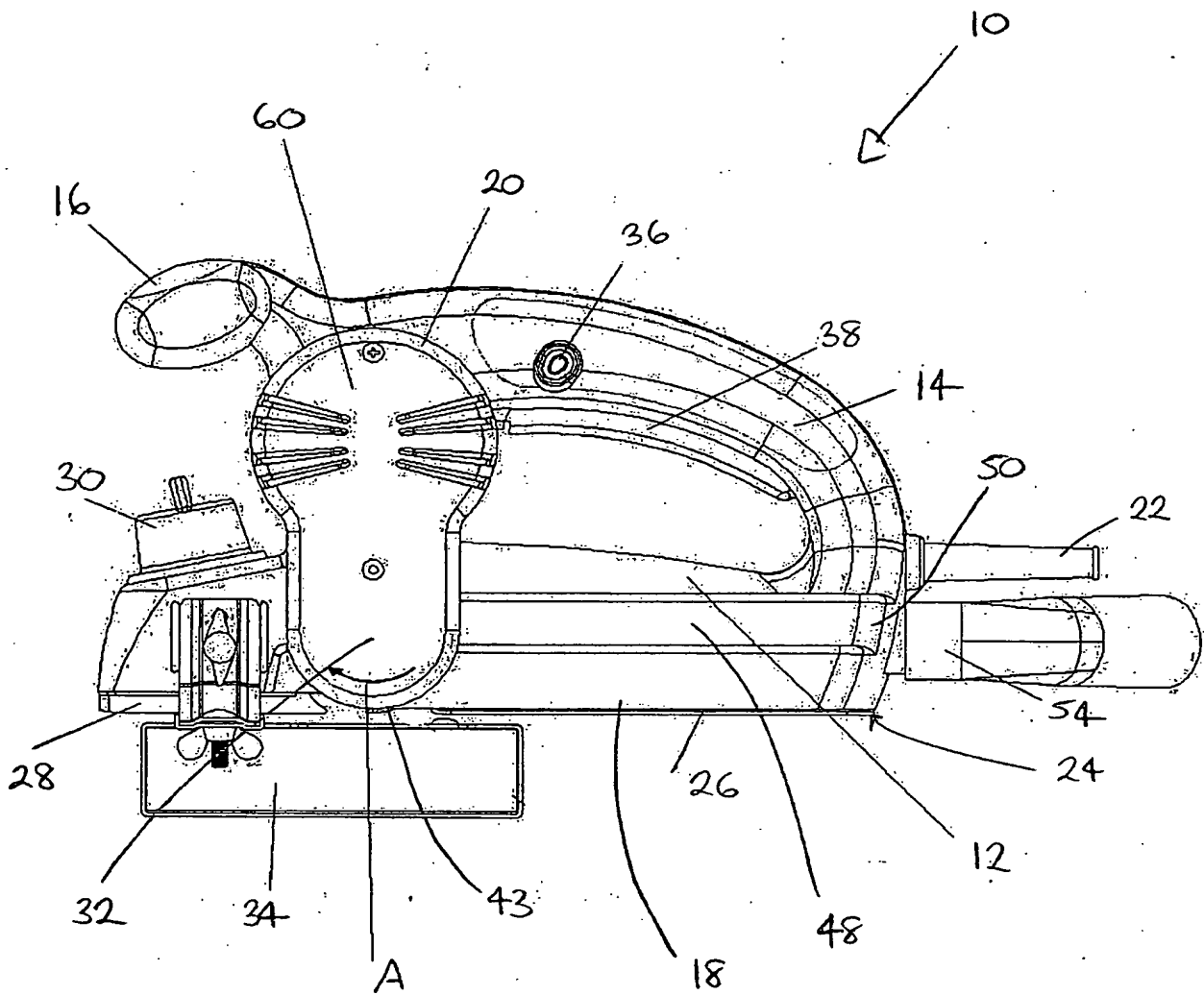
 It will be appreciated that the present invention provides a planer that
15 enables an improved cut and balance due to the weight of the motor being located above the cutting blades. Clearance of wood chippings from the back of the tool keeps the work surface clear and does not obstruct the vision or movement of the user.

 It will be understood that the invention disclosed and defined in this
20 specification extends to all alternative combinations of two or more of the individual features mentioned or evident from the text or drawings. All of these different combinations constitute various alternative aspects of the invention.

GMCA Pty Ltd
By its Registered Patent Attorneys
25 Freehills Carter Smith Beadle

13 December 2002

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